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**BEFORE THE ARIZONA CORPORATION COMMISSION**

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JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MIKE GLEASON
KRISTIN K. MAYES
BARRY WONG

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| IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR A HEARING TO DETERMINE THE FAIR VALUE OF THE UTILITY PROPERTY OF THE COMPANY FOR RATEMAKING PURPOSES TO FIX A JUST AND REASONABLE RATE OF RETURN THEREON, TO APPROVE RATE SCHEDULES DESIGNED TO DEVELOP SUCH RETURN, AND TO AMEND DECISION NO 67744 | Docket No. E-01345A-05-0816<br><br>**FEDERAL EXECUTIVE AGENCIES**<br><br>**POST-HEARING BRIEF** |
| IN THE MATTER OF THE INQUIRY INTO THE FREQUENCY OF UNPLANNED OUTAGES DURING 2005 AT PALO VERDE NUCLEAR GENERATING STATION, THE CAUSES OF THE OUTAGES, THE PROCUREMENT OF REPLACEMENT POWER AND THE IMPACT OF THE OUTAGES ON ARIZONA PUBLIC SERVICE CUSTOMERS | Docket No. E-1345A-05-0826 |
| IN THE MATTER OF THE AUDIT OF THE FUEL AND PURCHASED POWER PRACTICES AND COSTS OF THE ARIZONA PUBLIC SERVICE COMPANY. | Docket No. E-1345A-05-0827 |

## I. BACKGROUND

On November 4, 2005, Arizona Public Service Company ("APS" or "Company") filed an application in Docket No. E-01345A-05-0816, requesting a permanent rate base increase. On November 9, 2005, the Commission opened a docket to investigate the unplanned outages during 2005 at Palo Verde Nuclear Generating Station (Docket No. E-01345A-05-0826). The Commission also opened a docket to audit the fuel and purchased power practices of APS (Docket No. E-01345A-05-0827). The Company subsequently submitted an amended application on January 31, 2006. These three dockets were consolidated by procedural order on September 18, 2006.

In the amended application, APS asked the Commission to approve a permanent base rate increase of $449.6 million on annualized test year sales for its jurisdictional electric operations. APS also requested that the Commission permanently modify or eliminate the $776.2 million "cap" placed on total annual net fuel and purchased power costs by Decision No. 67744 (April 7, 2005) and make other changes to the Power Supply Adjustment ("PSA") mechanism. APS further requested the Commission adopt and approve an Environmental Improvement Charge ("EIC") to recover costs of environmental improvements at the Company's fossil-fuel generating plants, and set an initial EIC of $.000152 per KWh. APS requested that the interim rate increase granted by Decision No. 68685 (May 5, 2006) be made permanent in this proceeding.

The Company asserted in its amended application that APS's current rates and charges do not produce a reasonable return on the fair value of its property devoted to public service, and that the rate increase sought would enable the Company to maintain its credit rating and attract new capital on reasonable terms. APS requested the Commission authorize an 11.5% return on equity, an increase which the Company asserted was necessary for APS to continue as the type of financially strong utility that ensures continued reliable service at reasonable prices into the future.

On February 2, 2006, the Commission issued Decision No. 68437, which allowed APS to continue to defer fuel and purchased power costs in excess of the $776.2 million "cap" referenced in Decision No. 67744 until the issue was further examined in this docket.

On September 1, 2006, Federal Executive Agencies (FEA) filed the written testimony of Colonel Ben Hancock, Commander, Marine Corps Air Station, Yuma (Exhibit FEA-5); Colonel Ronald Mozzillo, Commander, 56th Mission Support Group, Luke Air Force Base (Exhibit FEA-1) and Dr Dennis Goins (Exhibit FEA- 3). FEA also filed surrebuttal testimony of Dr Dennis Goins, dated September 27, 2006 (Exhibit FEA-4). Dr Goins and Colonel Mozzillo appeared during the hearing. Colonel Hancock was unavailable to appear in person, and his testimony was admitted without cross examination. The FEA testimony was limited to four principal cost-of-service and rate design issues, namely allocation of demand-related production costs, allocation of energy-related production cost, revenue spread, and voltage discounts for Rate E-34, as well as customer impact testimony for Luke Air Force Base and Marine Corps Air Station Yuma. This brief will be limited in scope to address the cost-of-service and rate design issues.

## **<u>II. ALLOCATION OF DEMAND-RELATED PRODUCTION COSTS</u>.**

**A. What are the proposed allocation methodologies?**

**1. APS Proposal—4CP methodology.** APS proposes a 4 Coincident Peak (4CP) methodology to allocate demand-related (fixed) production costs. APS allocated demand-related production and transmission costs to major customer classes using the average of its four test-year monthly summer (June-September) coincident system peaks.

**2. Staff Proposal—4CP&A methodology.** Staff witness Michael Brosch proposes a 4 Coincident Peak & Average (4CP&A) methodology to allocate demand-related production costs. The 4CP&A methodology involves a "weighted combination of the peak demand allocation factor used by APS, together with an average demand (or energy-based) allocation factor." This methodology weights the 4CP and the average demand by the sum of the combined peak plus the average demand. In this case, Mr Brosch combined APS' 4CP demand data weighted at 65 percent, with average demand weighted 35 percent. (*See* Direct Testimony of Mr Michael Brosch, Exhibit Staff-7, page 13, lines 15-16).

**3. Intervenors—supporting 4CP methodology.** FEA, along with the other parties representing customers in the General Service customer classes, namely Kroger and Phelps Dodge Mining Company/Arizonans for Electric Choice and Competition (PDMC/AECC), support the methodology proposed by APS. (*See* Direct Testimony of Dr Dennis Goins, Exhibit FEA-3, page 6, lines 13-21; Direct Testimony of Mr Kevin

Higgins, Exhibit PDMC/AECC-5, page 2, lines 4-6; Direct Testimony of Mr Stephen Baron, Exhibit Kroger-1, page 6, lines 8-9).

**B. What methodology should the Commission adopt for the allocation of demand-related production costs?**

**The Commission should adopt the 4CP allocation methodology proposed by APS.**

If the cost-of-service methodology does not allocate and assign cost responsibility in a reasonable manner, then interclass revenue subsidies are created and specific class rates are either over- or under- priced, thereby sending erroneous price signals and causing customers to make inefficient electricity investment and consumption decisions. APS' retail demands are driven by summer usage. Mr Kevin Higgins delineated the significant summer peak requirements in his Direct Testimony on Cost-of-Service/Rate Spread/Rate Design. In this testimony, he highlights the fact that the average peak in the four summer months is 50 percent greater than the average peak in the non-summer months (6,629 MW avg summer versus 4,423 MW non-summer). (*See* Direct Testimony of Mr Kevin Higgins, Exhibit PDMC/AECC-5, page 3, line 31-33).

The 4CP&A methodology proposed by Staff suffers from two major flaws. First, the methodology double counts average demand in the peak demand and energy (average demand) components of the 4CP&A allocation factors. This occurs because average demand is a subset of coincident peak demand. (*See* Surrebuttal Testimony of Dr Dennis Goins, Exhibit FEA, page 7 lines 5-10; Hearing Testimony of Mr Kevin Higgins, Transcript Volume XV, page 2996, lines 17-22). Staff could have avoided this double counting by using an average and excess demand allocation methodology that incorporated coincident peak demand. The 4CP&A methodology rests on the implicit assumption that average demand is the principal determinant of a utility's decision to build baseload plants that provide relatively low-cost energy year-round. A logical corollary is that excess demand—the difference between peak and average demands—is the principal determinant in decisions to build peaking and intermediate plants that operated fewer hours and at much higher variable cost. However, instead of advocating an average and excess demand allocation methodology that incorporates coincident peak demands, Staff proposed a 4CP&A methodology that blends average and peak demands in a manner that bears no discernible relationship between capacity planning and capacity costs allocated to customer classes. Mr Brosch testified during the Hearing that he had never proposed the 4CP&A methodology he proposed in this hearing in any other proceeding prior to this case. (*See* Hearing Testimony of Mr Micheal Brosch, Transcript Vol XVI, page 3144, lines 7-8).

The second flaw of the 4CP&A methodology proposed by Staff is the methodology produces an asymmetrical allocation of production plant and fuel costs. (*See* Surrebuttal Testimony of Dr Goins, Exhibit FEA-4, page 7, lines 25-28; page 8, lines 1-12) Although the methodology allocates a higher percentage of fixed production costs—especially baseload plant costs—to higher load factor classes, the 4CP&A methodology does not allocate a similar higher percentage of the fuel-cost savings from baseload plants to these classes. Staff did not adjust its cost-of-service study to offset this asymmetry in allocating production costs. Instead, under Staff's 4CP&A cost study, each class is allocated average system fuel costs. As a result, higher load factor customer classes bear the higher capital cost of baseload plants without a fuel-cost savings offset—thereby creating an unjustified subsidy for lower load factor Residential customers.

In addition to the reasons listed above, it is important to note that the Commission has consistently approved the 4CP methodology in past APS rate cases. Additionally, the Federal Energy Regulatory Commission (FERC) utilizes the 4CP methodology for allocating costs in FERC rate proceedings involving APS. (*See* Hearing Testimony of Mr Kevin Higgins, Transcript Vol XV, page 3057, lines 8-9). There is no testimony in this case from any party that there are any factors that would tend to suggest that the Commission should deviate from its past practice to adopt a new allocation methodology such as 4CP&A, Furthermore, as Mr Kevin Higgins noted in his testimony, there are few, if any, states that use 4CP&A methodology. (*See* Hearing Testimony of Mr Kevin Higgins, Transcript Vol XV, page 2997, lines 16-18).

## III. ALLOCATION OF ENERGY-RELATED PRODUCTION COSTS.

**A. What are the proposed allocation methodologies?**

**1. APS Proposal—loss adjusted kwh sales.** The APS cost-of-service study allocates fuel and purchased power costs ("energy-related costs") on the basis of kilowatt-hours (kwh) consumed by each customer class. Under this approach, each class is allocated average system fuel costs. Each kilowatt hour generated is assigned exactly the same weight, regardless of whether it is consumed during high-cost summer on-peak periods or lower-cost, off-peak periods. (*See* Direct Testimony of Mr Kevin Higgins, Exhibit PDMC/AECC-5, page 8, lines 14 – 18).

**2. PDMC/AECC Proposal—hourly energy cost allocator.** PDMC/AECC Witness Mr Kevin Higgins proposed a modification to the APS cost-of-service study that allocated fuel and purchased power costs on the basis of each customer class' energy cost responsibility, taking into account the hourly costs for fuel and purchased power costs and hourly loads by customer class. He made this modification via an energy cost multiplier, which he developed for each customer class. (*See* Direct Testimony of Mr Kevin Higgins, Exhibit PDMC/AECC-5, page 13, table KCH-3).

**B. What methodology should the Commission adopt for the allocation of energy-related production costs?**

**The Commission should adopt the hourly energy cost allocator proposed by PDMC/AECC witness Mr. Kevin Higgins.**

The results from Mr Higgins' hourly energy cost analysis demonstrate that both the APS and Staff cost studies understate the energy-related cost responsibility of Residential customers and overstate the energy-related cost responsibility of higher load factor General Service customers. As Mr Higgins mentions in his Direct Testimony, "it is not fair for the cost of expensive summer usage of other customers to be transferred to industrial customers via the averaging of annual energy costs in the cost-of-service study." ( *Id. at* page 10, lines 15-17.) This is an especially unwarranted outcome when there is information available that would allow for an hourly cost allocation such as that which Mr Higgins has proposed. The witness for Kroger, Mr Stephen Baron stated succinctly during cross-examination that "the hourly energy allocation mechanism is simply a more detailed version of a traditional energy allocator, except that it's done on an hourly basis." (Hearing Testimony of Mr Stephen Baron, Transcript Vol XV, page 2978, lines 10-13). Mr Baron further stated that it is "indisputable that that [energy allocation mechanism] would be a more precise measure of the responsibility for energy related costs of each class. (Id. at lines 14-16). The PDMC/AECC proposal is a necessary improvement on the APS cost-of-service study, and should be adopted.

## IV. REVENUE SPREAD

### A. What are various party proposals for revenue spread?

**1. APS Proposal—roughly equal percentage basis.** APS spread its proposed revenue increase on a roughly equal-percentage, across-the-board basis, for Residential (21.14 percent increase excluding the EIC) and General Service (21.60 percent increase) customers. Irrigation customers got only a 0.14 percent increase, while the two Lighting classes got increases of 24.11 percent and 10.49 percent. Under this proposed revenue spread, the Interclass subsidies increase by more than 50 percent—from around $44.5 million under present rates to more than $67.2 million under proposed rates. (*See* Direct Direct Testimony of Dennis Goins, Exhibit FEA-3, page 11, lines 3-5, Table 2, and Exhibit DWG-2, page 2). That is, test-year revenues from APS' proposed Residential rates are about $64.3 million less than APS' costs (as determined in its cost-of-service study) of serving this class. APS makes up this shortfall—as well as the $2.9 million in subsidies received by Lighting customers—primarily by overcharging General Service customers (more than $66.9 million). (*Id.* at lines 7-11).

**2. Staff Proposal—differential increases.** Staff witness Erinn A. Andresen's recommended revenue spread uses results from Mr. Brosch's 4CP&A cost study as a guide for spreading Staff's proposed $204 million (9.56 percent) revenue increase from rates. (*See* Direct Testimony of Erinn A. Andreasen, Exhibit Staff-, page 2, lines 7-14 and page 5, lines 4-10). In general, she proposed increases close to the system average increase for the Residential (9.69 percent) and General Service (9.52 percent) classes. Within each of these major classes, she recommended differential increases to bring specific rate schedules closer to cost of service as measured by results from Staff's 4CP&A cost study. Using this rate spread, the Residential subsidy increases to almost $43.9 million, while the subsidy paid by General Service customers goes to almost $47.5 million. (*See* Surrebuttal Testimony of Dr Dennis Goins, Exhibit FEA-X, page 11, lines 13-15; page 12, Table 1S)

**3. RUCO Proposal—even distribution across customer classes.** The Residential Utility Consumer Office (RUCO) witness Marylee Diaz Cortes recommends an even distribution of the revenue requirement across all rate classes.

**4. Other Intervenor Proposals—reduce interclass subsidies.** Witnesses from FEA, Kroger and PDMC/AECC all proposed revenue spreads that would reduce the amount of interclass subsidies. Specifically, FEA witness Goins recommends reducing interclass revenue subsidies under APS' proposed revenue spread by half, subject to no class' receiving either a rate reduction or an increase greater than 150 percent of the average system rate increase (excluding the EIC). (*See* Direct Testimony of Dr Dennis Goins, Exhibit FEA-3, page 7, lines 1-13).

**B. What rate spread should the Commission adopt?**

**The Commission should adopt the FEA proposal to reduce interclass subsidies by half, while ensuring that no customer class receives a rate decrease or an increase grater than 150 percent of the system average rate increase.**

The fundamental principles of efficiency and fairness in ratemaking require that rates for each class should reflect cost of service. Although APS' proposed revenue spread moves rates for Residential and General Service classes closer to cost of service, the interclass subsidies increase by more than 50 percent—from around $44.5 million under current rates to more than $67.2 million under proposed rates. Approximately $64.3 million of that interclass subsidy goes to Residential customers. (*See* Direct Testimony of Dr Dennis Goins, Exhibit FEA-XX, page 11, lines 6-7).

The recommendation of Staff witness Ms. Andreasen is based on a seriously flawed cost study, and exacerbates the interclass revenue subsidy problem. The subsidy increases under the Staff's proposed rate spread, even when the subsidy is measured relative to cost responsibility determined by Staff's recommended 4CP&A cost study. (*Id.* at 11-20).

## V. VOLTAGE DISCOUNTS FOR RATE E-34

**A. What are the various proposals for voltage discounts for Rate E-34?**

**1. APS proposed voltage discounts—increased discounts for customers served at transmission voltage.** APS has increased the voltage discount for customers served at transmission voltages (69 kV and higher) from $4.30 per kW to $4.52 per kW. However, discounts for customers served directly from a Primary Substation[1] or from Primary voltage lines remain unchanged at $3.40 per kW and $0.66 per kW, respectively.

**2. FEA proposed voltage discounts.** FEA proposed increasing the voltage discounts for customers served at primary substation and primary lines, in addition to the increased discounts for customers served at transmission voltages. Specifically, FEA recommends a discount of $4.72/kW for transmission customers, $4.04/kW for customers served from a primary substation and $0.79 for customers served from primary lines. (*See* Direct Testimony of Dr Dennis Goins, Exhibit FEA-3, page 18, Table 6).

[1] This discount currently applies only to military bases taking primary service directly from an APS-owned substation.

**B. What voltage discounts should the Commission approve?**

**The Commission should approve the voltage discounts proposed by FEA, namely $4.72/kW for transmission customers, $4.04/kW for customers served from a primary substation and $0.79/kW for customers served from primary lines.**

No other party opposed increasing the voltage discounts as proposed by FEA witness Goins. The proposed discounts are cost-based, and do not impact the revenue requirement of any other rate class. (*See* Hearing Testimony of David Rumolo, Transcript Volume XIV, page 2777 lines 9-12). In fact, APS witness David Rumolo noted that "what [Dr] Goins adopted was the exact numbers that fell out of our cost-of-service study." (*Id.* at line 1)

Customers served under Rate E-34 take delivery service at transmission, primary, and secondary voltages as defined by APS. The cost of serving customers at different voltages varies because of differences in the types and cost of equipment needed to deliver service and energy losses that increase as the service delivery voltage decreases. The voltage discounts in Rate E-34 should reflect these cost-of-service differences as accurately as possible.

## VI. FEA RECOMMENDATIONS

**1. The Commission should adopt the 4CP allocation methodology proposed by APS for allocation of demand-related production costs.**

**2. The Commission should adopt the hourly energy cost allocator proposed by PDMC/AECC witness Mr. Kevin Higgins for the allocation of energy-related production costs.**

**3. The Commission should adopt the FEA proposal to reduce interclass subsidies by half, while ensuring that no customer class receives a rate decrease or an increase grater than 150 percent of the system average rate increase.**

**4. The Commission should approve the voltage discounts proposed by FEA, namely $4.72/kW for transmission customers, $4.04/kW for customers served from a primary substation and $0.79/kW for customers served from primary lines.**

RESPECTFULLY SUBMITTED this 22nd day of January, 2007

Karen S White


KAREN S. WHITE, Lt Col, USAF
Chief, Air Force Utility Litigation Team
AFLSA/JACL-ULT
139 Barnes Drive
Tyndall AFB FL 32403
(850)283-6347
Counsel for Federal Executive Agencies


Original and 13 copies of the foregoing filed
this 22nd day of January, 2007, with:

Docket Control
Arizona Corporation Commission
1200 West Washington
Phoenix AZ 85007

A copy of the foregoing was mailed/*emailed this
22nd day of January 2007 to:

*Lyn Farmer, Chief Administrative
Law Judge
Hearing Division

Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Mr. Gordon Fox
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Ms Janice Alward
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

*Thomas L. Mumaw
*Karilee S. Ramaley
PINNACLE WEST CAPITAL CORPORATION
P.O. Box 53999
Phoenix, AZ 85072-3999

*Deborah R. Scott
*Kimberly A. Grouse
SNELL & WILMER
One Arizona Center
400 E. VanBuren Street
Phoenix, AZ 85004-2202

*Dan Austin
Comverge, Inc.
5509 W. Frye Road, Ste 4
Chandler, AZ 85526

Jim Nelson
12621 N. 17th Place
Phoenix, AZ 85022

*Scott S. Wakefield
RUCO
1110 W. Washington, Ste 220
Phoenix, AZ 85007

*Bill Murphy
Murphy Consulting
5401 N. 25th Street
Phoenix, AZ 85016

*Douglas V. Fant
3655 W. Anthem Drive, Ste A109
PMB 411
Anthem, AZ 85086

*Michelle Livengood
UNISOURCE ENERGY SERVICES
One South Church Street, Ste 200
Tucson, AZ 85702

*Timothy M. Hogan
ARIZONA CENTER FOR LAW IN THE PUBLIC INTEREST
202 E. McDowell Road, Ste 153
Phoenix, AZ 85004

Tracy Spoon
SUN CITY TAXPAYERS ASSOCIATION
12630 N. 103rd Ave Ste 144
Sun City, AZ 85351

*Walter Meek
ARIZONA UTILITY INVESTORS ASSOCIATION
2100 N. Central Avenue, Ste 210
Phoenix, AZ 85004

*Michael L. Kurtz
Kurt J. Boehm
BOEHM, KURTZ & LOWRY
36 East Seventh Street, Ste 1510
Cincinnati, OH 45202
Attorneys for The Kroger Co.

*C. Webb Crockett
*Patrick J. Black
FENNEMORE CRAIG
3003 North Central Avenue, Ste 2600
Phoenix, AZ 85012-2913
Attorneys for Phelps Dodge Mining Company and Arizonans for Electric Choice and Competition

*Steven B. Bennett
Deputy City Attorney
City of Scottsdale
City Attorney's Office
3939 N. Drinkwater Blvd

Scottsdale, AZ 85251

*Christopher Kempley, Chief Counsel
Legal Division
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, AZ 85007

*Ernest G. Johnson, Director
Utilities Division
ARIZONA CORPORATION COMMISSION
1200 West Washington
Phoenix, AZ 85007

*Jay I. Moyes
Moyes Storey Ltd.
1850 N. Central, Suite 1100
Phoenix, AZ 85004
Attorneys for AzAg Group

*Kenneth R. Saline, P.E.
K.R. Saline & Assoc., PLC
160 N. Pasadena, Suite 101
Mesa, AZ 85201

Theodore E. Roberts
Sempra Energy Resources
101 Ash Street, HQ 12-B
San Diego, CA 92101-3017
Attorney for Mesquite Power

*Laura E. Sixkiller
Roshka DeWulf & Patten, PLC
One Arizona Center
400 East Van Buren, Suite 800
Phoenix, AZ 85004
Attorneys for UniSource Energy Services

*David Berry
Western Resource Advocates
P.O. Box 1064
Scottsdale, AZ 85252-1064

*Eric C. Guidry
Western Resource Advocates
2260 Baseline Road, Suite 200

Boulder, CO 80302

Gary L. Nakarado
24657 Foothills Drive N
Golden, CO 80401
Attorney for Solar Advocates

*Lawrence V. Robertson, Jr.
P.O. Box 1448
Tubac, AZ 85646
Attorney for Southwestern Power Group 11, Bowie Power Station & Mesquite Power

*Robert W. Geake
Vice President and General Counsel
Arizona Water Company
P.O. Box 29006
Phoenix, AZ 85038-9006

*Michael A. Curtis
*William P. Sullivan
*K. Russell Romney
Curtis, Goodwin, Sullivan, Udall & Schwab
2712 North Seventh Street
Phoenix, AZ
Attorneys for Town of Wickenburg

Cynthia Zwick
Executive Director
Arizona Community Action Association
2700 N. Third Street, Suite 3040
Phoenix, AZ 85004

*Nicholas J. Enoch
Jarrett J. Haskovec
Lubin & Enoch, P.C.
349 North Fourth Avenue
Phoenix, AZ 85003
Attorneys for IBEW Locals 387, 640, 769

*Greg Patterson
916 West Adams, Suite 3
Phoenix, AZ 85007

S. David Childers
Low & Childers, P.C.
2999 North 44th Street, Suite 250
Phoenix, AZ 85018
Attorney for Arizona Competitive Power Alliance

By: Karen S White
KAREN S. WHITE, Lt Col, USAF